

REMARKS

None of the claims have been amended or cancelled. Claims 1-41 and 49-56 are pending. Claims 7-9, 24, 25, 31-33 and 39-41 have been withdrawn. Claims 1, 7, 10, 23, 34, 39, 49, and 51 are the independent claims. No new matter is presented in this Response.

REJECTIONS UNDER 35 U.S.C. §102:

Claims 1-2, 4-6, 10, 15, 34 and 49-56 are rejected under 35 U.S.C. §102(b) as being anticipated by Himeshima et al. (U.S. Publication 2001/0004469).

Regarding the rejection of independent claim 1, it is noted that claim 1 recites an evaporation mask formed of a thin film, wherein the evaporation mask is drawn taut by application of tension and comprises: at least one mask unit, comprising: a plurality of main apertures, and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask.

The Office Action states that Himeshima discloses an evaporation mask in FIG. 35 formed of a thin film (item 31), wherein the evaporation mask is drawn taut by application of tension (see FIG. 36e) and comprises: at least one mask unit, comprising: a plurality of main apertures (item 32), and a plurality of first dummy apertures (item 38) formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask (see FIG. 36e).

However, Applicants respectfully note that FIGS. 35 and 36 show two different masks. FIG. 35 shows a method of making a mask for patterning the emitting layer 6 shown in FIGS. 1-3 of Himeshima, while FIG. 36 shows a method of making a mask for patterning the second electrodes 8 shown in FIGS. 1-3 of Himeshima.

Furthermore, although the Office Action considers the margin of meshes 38 in FIG. 35 of Himeshima to correspond to the "first dummy apertures" in claim 1, the margin of meshes 38 is cut off during fabrication of the mask in FIG. 35, such that the finished mask does not have "first dummy apertures" as recited in claim 1. As noted in paragraph [0110] of the reference, Himeshima states that "The method for producing the shadow mask for the emitting layer is described below. At first, Ni—Co alloy was precipitated on a mother substrate by electroforming, to form a sheet with a margin of meshes 38 connected around a mask portion 31 as shown in

FIG. 35. Then, while the sheet was tensioned by using the margin of meshes, the mask portion was overlaid on a frame, and both were fastened using an adhesive. Finally, the margin of meshes extending beyond the frame was cut off, to produce a shadow mask with high flatness for the emitting layer". That is, the dummy apertures are cut off during fabrication of the mask and the resulting mask lacks any type of dummy apertures.

Therefore, Applicants respectfully assert that Himeshima fails to teach or suggest a plurality of main apertures, and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask.

As noted in MPEP 2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). In the instant case, the apertures are neither expressly nor inherently taught by Himeshima.

Accordingly, Applicants respectfully assert that the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn because Himeshima fails to teach or suggest the novel features of independent claim 1.

Regarding the rejection of dependent claim 2, it is noted that claim 2 recites that the main apertures form an effective deposition area, and the first dummy apertures form an ineffective deposition area.

The Office Action states that Himeshima discloses the evaporation mask of claim 1, wherein the main apertures form an effective deposition area (see FIG. 35), and the first dummy apertures form an ineffective deposition area (see FIG. 35).

However, as discussed above, the margin of meshes 38 in FIG. 35 of Himeshima relied upon for a teaching of the "first dummy apertures" in claim 2 is cut off during fabrication of the mask in FIG. 35, such that the finished mask does not have "first dummy apertures [that] form an ineffective deposition area" as recited in claim 2.

Regarding the rejection of dependent claim 4, it is noted that dependent claim 4 recites at least two mask units, and further comprising a plurality of second dummy apertures formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask.

The Office Action states that Himeshima discloses the evaporation mask of claim 2, comprising at least two mask units (items 32, see two rows), and further comprising a plurality of second dummy apertures (item 38) formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask (see FIG. 35 and paragraph 110).

However, it is submitted that the apertures 32 in FIG. 35 of Himeshima are part of a single mask unit that is used to form a single organic electroluminescent device, such as the organic electroluminescent device shown in FIG. 1 of Himeshima. Accordingly, it is submitted that Himeshima does not disclose or suggest "at least two mask units" as recited in claim 4.

Furthermore, as discussed above, the margin of meshes 38 in FIG. 35 of Himeshima considered to correspond to the "second dummy apertures" in claim 4 is cut off during fabrication of the mask in FIG. 35, such that the finished mask does not have "a plurality of second dummy apertures formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask" as recited in claim 4.

Furthermore, it is submitted that the position that the margin of meshes 38 in FIG. 35 of Himeshima corresponds to the "second dummy apertures" in claim 4 is inconsistent with the position that the margin of meshes 38 in FIG. 35 of Himeshima corresponds to the "first dummy apertures" in claim 1 from which claim 4 indirectly depends.

Regarding the rejection of dependent claim 5, it is noted that claim 5 recites that the second dummy apertures are formed outside the effective deposition areas where the mask units are formed.

The Office Action states that Himeshima discloses the evaporation mask of claim 4, wherein the second dummy apertures are formed outside the effective deposition areas where the mask units are formed (see FIG. 35).

However, as discussed above, the margin of meshes 38 in FIG. 35 of Himeshima relied upon in the Office Action for a teaching of the "second dummy apertures" in claim 5 is cut off during fabrication of the mask in FIG. 35, such that the finished mask does not have the feature "wherein the second dummy apertures are formed outside the effective deposition areas where the mask units are formed" recited in claim 5.

Regarding the rejection of dependent claim 6, it is noted that claim 6 recites that at least

one of the second dummy apertures is formed parallel to the main apertures of the mask units, and at least another one of the second dummy apertures is formed perpendicular to the main apertures.

The Office Action states that Himeshima discloses the evaporation mask of claim 4, wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units (see FIG. 35), and at least another one of the second dummy apertures is formed perpendicular to the main apertures (see FIG. 35).

However, as discussed above, the margin of meshes 38 in FIG. 35 of Himeshima that the Office Action considers to correspond to the "second dummy apertures" in claim 6 is cut off during fabrication of the mask in FIG. 35, such that the finished mask does not have the feature "wherein at least one of the second dummy apertures is formed parallel to the main apertures of the mask units, and at least another one of the second dummy apertures is formed perpendicular to the main apertures" recited in claim 6.

Furthermore, the meshes 38 in FIG. 35 of Himeshima appear to be circular holes, and accordingly it is not seen how some of the meshes 38 can be considered to be formed parallel to the apertures 32 that the Office Action considers to correspond to the "main apertures" recited in claim 6, while other ones of the meshes 38 are considered to be formed perpendicular to the apertures 32.

Regarding the rejection of independent claims 10, 34 and 49, it is noted that claims 10, 34 and 49 recite some substantially similar features as claim 1. Thus, the rejection of these claims is also traversed for similar reasons as set forth above.

Furthermore, with respect to independent claim 10, it is submitted that Himeshima does not disclose or suggest forming a first dummy pattern area outside the effective luminescent area through the first dummy apertures.

The Office Action states that Himeshima discloses . . . forming a first dummy pattern area outside the effective luminescent area through the first dummy apertures (see FIG. 35).

However, as discussed above, the margin of meshes 38 in FIG. 35 of Himeshima relied upon for a teaching of the "first dummy apertures" in claim 10 is cut off during fabrication of the mask in FIG. 35, such that the finished mask is not used to "form[] a first dummy pattern area outside the effective luminescent area through the first dummy apertures" as recited in claim 10

as can be seen from FIGS. 17-19 of Himeshima, which show the method of patterning the emitting layer 6 using the mask in FIG. 35 of Himeshima.

Regarding the rejection of dependent claims 15 and 50, it is noted that these claims depend from independent claims 10 and 49, and as noted above Himeshima does not disclose or suggest the novel features of the independent claims. Therefore, Applicants respectfully assert that the rejection of dependent claims 10 and 49 under 35 U.S.C. §102(b) should be withdrawn at least because of their dependency from claim 15 and 50, and the reasons set forth above.

Regarding the rejection of independent claim 51, it is noted that claim 51 recites a mask unit for an evaporation mask, comprising: a main aperture; and a dummy aperture, wherein the dummy aperture is deformed when a tension is applied to the evaporation mask in a direction perpendicular to a longitudinal direction of the main aperture and a longitudinal direction of the dummy aperture, thereby minimizing a deformation of the main aperture by the tension applied to the evaporation mask.

The Office Action states that Himeshima discloses . . . wherein the dummy aperture is deformed when a tension is applied to the evaporation mask in a direction perpendicular to a longitudinal direction of the main aperture and a longitudinal direction of the dummy aperture (see FIG. 36e), thereby minimizing a deformation of the main aperture by the tension applied to the evaporation mask and cites paragraphs 81 and 110 for such teachings.

However, paragraph [0081] of Himeshima teaches that the mask portion 31 has apertures 32 formed to correspond to the respective luminescent regions of the emitting layer, and to prevent the deformation of the apertures, reinforcing lines 33 are formed on the same plane as the mask portion, to cross the apertures for preventing the deformation of the apertures.

Thus, in Himeshima, it is the reinforcing lines 33 in FIG. 36e of Himeshima that prevent deformation of any of the apertures 32, rather than any of the meshes 38. Therefore, Applicants respectfully assert that Himeshima fails to teach or suggest this novel feature of independent claim 51.

Accordingly, for at least the foregoing reasons, it is respectfully requested that the rejection of claims 1, 2, 4-6, 10, 15, 34, and 49-56 under 35 USC 102(b) as being anticipated by Himeshima be withdrawn.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 3, 11, 16 and 35 are rejected under 35 U.S.C. §103(a) as being unpatentable over Himeshima et al. (U.S. Publication 2001/0004469) in view of Nakagawara et al. (JP 2002-060927).

Although the propriety of this rejection is not conceded, it is submitted that claims 3, 11, 16, and 35 are patentable over Himeshima and Nakagawara for at least the same reasons discussed above that claims 1, 10, and 34 from which claims 3, 11, 16, and 35 directly or indirectly depend are patentable over Himeshima, and furthermore because Nakagawara fails to teach or suggest the novel features of the independent claims. Therefore, Nakagawara fails to cure the deficiencies of Himeshima.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 3, 11, 16, and 35 under 35 USC 103(a) as being unpatentable over Himeshima in view of Nakagawara be withdrawn.

ALLOWABLE SUBJECT MATTER:

Claims 12-14, 17-22 and 36 through 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

RESPONSE TO ARGUMENTS:

In the response to the arguments section at pages 11 and 12 of the Office Action dated May 11, 2010, the Office Action states that as seen in FIG. 35 of Himeshima, the dummy apertures are item 38 and the main apertures are item 32. The Office Action further cites paragraph [0111] of Himeshima and states that the reference clearly states that only portions of the mask are cut off and more specifically the portions that extend beyond the frame. Therefore, the Office Action states that Himeshima does not disclose or suggest cutting off all of the dummy apertures (item 38).

Applicants respectfully traverse such assertions for at least the following reasons.

Initially, it is noted that FIG. 35 and items 32 and 38 are described in paragraph [0110]

and not in paragraph [0111]. Furthermore, Applicants note that paragraph [0111] relates to another type of mask. That is, FIG. 35 described in paragraph [0110] and FIG. 36 described in paragraph [0111], show and teach two different masks. Therefore, the teachings of paragraph [0111] are drawn to another type of mask, and not to the mask of FIG. 35. Furthermore, FIG. 36 does not teach or suggest dummy apertures. Accordingly, Applicants respectfully assert that Himeshima fails to teach or suggest the novel features recited in the independent claims.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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